



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/551,529

09/30/2005

Arto Koponen

AWEK 3305

4442

7812

7590

08/20/2010

CHERNOFF, VILHAUER, MCCLUNG & STENZEL, LLP  
601 SW Second Avenue, Suite 1600  
Portland, OR 97204

EXAMINER

STRIMBU, GREGORY J

ART UNIT

PAPER NUMBER

3634

MAIL DATE

DELIVERY MODE

08/20/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/551,529	<b>Applicant(s)</b> KOPONEN, ARTO	
	<b>Examiner</b> Gregory J. Strimbu	<b>Art Unit</b> 3634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 13-19 and 22-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-19 and 22-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

***Specification***

The abstract of the disclosure is objected to because "are arranged operatively dependent on the turning movement" on lines 5-6 are confusing since it is unclear if the potentiometers are arranged on the turning movement or if the potentiometers are operatively dependent on the turning movement. Correction is required. See MPEP § 608.01(b).

***Claim Rejections - 35 USC § 112***

Claims 13-19 and 22-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Recitations such as "movement of the swing door" on line 4 of claim 13 render the claims indefinite because it is unclear whether or not the applicant is referring to the movement of the swing door set forth above on line 1. Recitations such as "the respective characteristics curves" on line 2 of claim 14 render the claims indefinite because they lack antecedent basis. Note that claim 13 set forth characteristic curves, but fails to set forth that they are respective characteristic curves. It is suggested the applicant delete "respective" on line 2 of claim 14 to avoid confusion.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 3634

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13-15, 18, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moll (US 6223469) in view of Callahan (US 5201380). Moll discloses a swing door apparatus for controlling movement of a swing door 53, the swing door apparatus comprising a swing arm 128 for connection to the swing door 53, an operation shaft 22 connected to the swing arm whereby the operation shaft turns in accordance with movement of the swing door, a potentiometer 11 which moves in accordance with the turning movement of the operation shaft 22 for measuring the angle of rotation of the door panel (see column 3, lines 20-23 and column 7, lines 19-20);

an electric motor 10 and a battery 52 for powering the motor and potentiometer (claim 18). Moll is silent concerning two potentiometers and a common potentiometer shaft.

However, Callahan discloses a common potentiometer shaft 20, first 36 and second 38 potentiometers coupled with the common potentiometer shaft 20, the first and second potentiometers having at least substantially identical characteristic curves, as shown in figure 2, and being arranged in conjunction with the common potentiometer shaft so that the respective characteristic curves are shifted in phase with respect to one another as shown in figure 2;

wherein the respective characteristic curves are shifted in phase with respect to one another by substantially 180° as shown in figure 2 (claim 14);

Art Unit: 3634

wherein the characteristic curves of the potentiometers each include a linear range as shown in figure 2 and the apparatus comprises a control unit 50 which selects each time the potentiometer to be used for the detection of door position (see column 6, lines 4-6 and column 6, line 66 to column 7, line 1) so that the detection of door position detecting is performed within the linear range of the selected potentiometer (claim 15).

It would have been obvious to one of ordinary skill in the art to provide Moll with potentiometers mounted on a common potentiometer shaft, as taught by Callahan, to ensure that a voltage output from the potentiometers is always available. See column 4, lines 63-68.

Claims 13-17, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stevens et al. (US 6002217) in view of Moll and Callahan. Stevens et al. discloses a swing door apparatus for controlling movement of a swing door (not shown, but see column 3, line 36), the swing door apparatus comprising, an operation shaft 128 whereby the operation shaft turns in accordance with movement of the swing door, a potentiometer shaft (not numbered, but comprising the shaft of the potentiometer 130 as shown in figure 1) coupled to the operation shaft 128 whereby the potentiometer shaft turns in accordance with the turning movement of the operation shaft, and a potentiometer 130 coupled with the potentiometer shaft;

wherein the potentiometer shaft is mounted to a drive wheel 132 which is mechanically coupled to said operation shaft 128 for turning the potentiometer shaft (claim 16);

Art Unit: 3634

wherein the drive wheel 132 is a gear that is in meshing engagement with a gear 136 attached to the operation shaft 128 (claim 17);

wherein the potentiometer shaft is parallel to, and laterally spaced from, the operation shaft 128 as shown in figure 1 and is connected to the operation shaft by a first gear wheel 132 that is connected to the potentiometer shaft and a second gear wheel 136 that is connected to the operation shaft 128 and is in meshing engagement with the first gear wheel 132 (claim 22). Stevens et al. is silent concerning a swing arm and first and second potentiometers.

However, Moll discloses a swing door apparatus comprising a swing arm 128 for connection to a swing door 53 and an operation shaft 22 connected to the swing arm 128, whereby the operation shaft turns in accordance with movement of the swing door.

It would have been obvious to one of ordinary skill in the art to provide Stevens et al. with a swing arm, as taught by Moll, to reliably and directly connect the swing door apparatus to the swing door.

Additionally, Callahan discloses a sensor system comprising first 36 and second 38 potentiometers coupled with a common potentiometer shaft 20, the first and second potentiometers having at least substantially identical characteristic curves as shown in figure 2 and being arranged in conjunction with the common potentiometer shaft so that the respective characteristic curves are shifted in phase with respect to one another as shown in figure 2.

Art Unit: 3634

It would have been obvious to one of ordinary skill in the art to provide Stevens et al. with the sensor system, as taught by Callahan, to ensure that a voltage output from the potentiometers is always available. See column 4, lines 63-68.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moll in view of Callahan as applied to claims 13-15, 18, 23 and 24 above, and further in view of Mucher (US 2434248). Mucher discloses a body structure 5, 6 to which potentiometers are attached, and wherein each potentiometer has a slider member 12 connected to a potentiometer shaft 8, 9 for turning therewith.

It would have been obvious to one of ordinary skill in the art to provide Moll, as modified above, with a body structure and slider members, as taught by Mucher, to reduce the amount of space required to mount the potentiometers.

### ***Response to Arguments***

Applicant's arguments filed June 14, 2010 have been fully considered but they are moot in view of the new grounds of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory J. Strimbu whose telephone number is 571-272-6836. The examiner can normally be reached on Monday through Friday 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Katherine Mitchell can be reached on 571-272-7069. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 3634

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Gregory J. Strimbu/  
Primary Examiner, Art Unit 3634